

Coast Guard Cooperation in the Arctic

USCGC Healy's continental shelf mission.

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In recent years, our nation's Arctic economic, environmental, and security interests have escalated as reduced ice extent provides increased accessibility to the Arctic. Various other Arctic nations seized opportunities to submit territorial claims and retain potential fuel and marine resources. As commercial interests plan for off-shore drilling, this raises the specter of marine environmental pollution and spills of national significance. Additionally, it is no longer uncommon for passenger and commercial cargo vessels to venture into the Arctic, navigating in relatively uncharted waters, far from disaster assistance.

For the last 140 years, the Coast Guard has placed itself at the forefront of Arctic operations as icebreakers and ice-strengthened cutters from the Revenue Cutter *Bear* to USCGC *Healy* conducted law enforcement, community outreach, regional exploration, defense operations, research support, and search and rescue missions.

Over the past few decades, primary icebreaker operations shifted from traditional Coast Guard missions to focus more on polar region scientific support as well as ship escorts and channel breakouts for Thule Air Force Base in Greenland and McMurdo Station in Antarctica. As the need for traditional Coast Guard mission support in the polar regions re-emerges, icebreakers will prove invaluable in supporting national polar interests.

Extended Continental Shelf Project

In 2002, the National Oceanic and Atmospheric Administration and the University of New Hampshire Joint Hydrographic Center examined geological and geophysical data and identified several potential U.S. extended continental shelf claims (see sidebar). Approximately half the claim area is off the Alaskan coast. In 2003 the U.S. began collecting data to determine the outer limits of its extended continental shelf (ECS) for a potential United Nations Convention on the Law of the Sea (UNCLOS) claim.¹ The Arctic Ocean claim has become a primary focus of several Arctic nations, especially as the ice cover that previously prevented access to potentially significant oil and gas resources recedes.

Although the U.S. is not yet a party to UNCLOS, it can make an extended continental shelf claim under the customary international law UNCLOS reflects (the same authority under which it claims its exclusive economic zone). However, the U.S. will not have access to UNCLOS procedures for full international recognition and legal certainty for its claims.² Once the U.S. accedes to UNCLOS, it will have 10 years to submit its claim.

Coast Guard Arctic Surveys

The ECS task force is an interagency body tasked to determine the U.S. ECS, and has collected survey data for

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USCGC *Healy*

The Coast Guard commissioned the icebreaker *Healy* in 2000. Its equipment includes multiple heavy cranes, state-of-the-art laboratories, reconfigurable working spaces, extensive computer systems, a highly automated engineering plant, modern navigational equipment, a voyage management system, and upgraded sensors. While capable of performing a wide range of missions in support of U.S. interests in both polar regions, it is designed and outfitted to support Arctic science research.

For example, the data *Healy* collected in the Arctic has led to significant discoveries and provided direction for future research. The discovery of bathymetric “pockmarks” and glacial scouring features is changing our understanding of seafloor processes. Two new seamounts have been discovered, including one now named the “Healy Seamount.” New bathymetry has also helped the Navy better understand Arctic gravity data used in submarine guidance systems.



During an Arctic domain awareness flight, VADM Sally Brice-O'Hara (left) watches as the Coast Guard Cutter *Healy* breaks ice along with the Canadian Coast Guard ship *Louis S. St-Laurent*. U.S. Coast Guard photo by Air Station Kodiak.

this purpose. However, the Arctic ECS claim exploration presents unique challenges due to sea ice and the harsh environment. USGCC *Healy*'s icebreaking capabilities make it an ideal survey platform. Its onboard sensor, the multi-beam sonar, has proven invaluable in gathering bathymetric (underwater depth) data.

Additionally, U.S. and Canadian icebreakers conducted joint ECS cruises in 2008, 2009, and 2010 to support each country's ECS claim, with another joint deployment possible in 2011. In these joint efforts, one icebreaker

would break the path so the other's sensors would be less subject to shock and vibration; also, if an icebreaker found itself beset, the other icebreaker would help free it.

Through extensive use of sensors and cooperation with Canada, the U.S. has achieved a head start in collecting and analyzing data for an ECS claim likely to be among the largest in the world. The U.S. and Canada have demonstrated their ability to work together to achieve both countries' Arctic aims, further highlighting the

need for cooperation among the Arctic nations as the region becomes more accessible.

Endnotes:

¹ ECS Project, <http://continentalshef.gov>.

² Department of State, Bureau of Oceans and International Environmental and Scientific Affairs, "ECS Frequently Asked Questions, Fact Sheet."

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EXTENDED CONTINENTAL SHELF

The United Nations Convention on the Law of the Sea (UNCLOS) allows a coastal nation to claim an exclusive economic zone out to 200 nautical miles from its shore or out to a maritime boundary with another coastal nation.

This nation, then, has sovereign rights over all resources in the water column and in the seabed of its exclusive economic zone. UNCLOS allows some coastal nations to further claim an extended continental shelf (ECS) beyond 200 miles if the shelf meets certain physical criteria.¹

While a nation's rights over seabed and subsoil resources are protected in the ECS, it does not necessarily enjoy sovereign rights over resources in the water column. A nation desiring to present an ECS claim must collect and analyze data describing the depth, shape, and geophysical characteristics of the seabed and subsoil as well as the thickness of the underlying sediments. Geophysical data such as bathymetry, seismic refraction, magnetic and gravity data, and seafloor cores and supporting physical samples may all prove necessary in a nation's determination of the ECS's outer limits.²

Endnotes:

¹ Margaret Hayes, "The U.S. Extended Continental Shelf (ECS)," Ocean Seminar Series, Environmental Law Institute, 2009.

² Department of State, Bureau of Oceans and International Environmental and Scientific Affairs, "ECS Frequently Asked Questions, Fact Sheet."

The Canadian Coast Guard ship *Louis S. St-Laurent* makes an approach to the Coast Guard Cutter *Healy* during an Arctic survey mission. U.S. Coast Guard photo by Petty Officer Patrick Kelley.

